

MINUTES
OF
THE UTAH RADIATION CONTROL BOARD
November 5, 2004
Department of Environmental Quality (Bldg. #2)
Conference Room 101
168 North 1950 West
Salt Lake City, Utah 84114-4250

BOARD MEMBERS PRESENT

Karen S. Langley, M.S., Chair
Stephen T. Nelson, Ph.D., Vice Chair
Dianne R. Nielson, Ph.D., Director of DEQ
Dane Finerfrock, Executive Secretary
Keith C. Barnes, J.D.
Kent J. Bradford, P.G.
Linda M. Kruse, M.S.
Joseph K. Minor, M.D.
Robert S. Pattison, B.S.
Dan L. Perry, B.S.

PUBLIC

Jason Groenewold, HEAL Utah
Tye Rogers, Envirocare of Utah, Inc

BOARD MEMBERS ABSENT/EXCUSED

Rod O. Julander, Ph.D.
Gregory G. Oman, D.D.S., B.S.
John W. Thomson, M.D.
Gene D. White, Commissioner

**DRC STAFF/OTHER DEQ MEMBERS
PRESENT**

Craig Jones, DRC Staff
Loren B. Morton, DRC Staff
Ray Nelson, DRC Staff
Yoli Shropshire, DRC Staff

GREETINGS/MEETING CALLED TO ORDER

The Utah Radiation Control Board convened in DEQ Building #2, Room 101, 168 North 1950 West, Salt Lake City, Utah. Karen S. Langley, Chair to the Board, called the meeting to order at 2:00 p.m. She welcomed the Board members and the public. Karen Langley indicated that if the public wished to address any items on the agenda they should sign the public sign-in sheet. Those desiring to comment would be given an opportunity to address their concerns during the comment period.

I. APPROVAL OF MINUTES (Board Action Item)

a. Approval of September 10, 2004 Minutes

Karen Langley, Chair, asked the Board Members for corrections to the minutes of September 10, 2004. She proposed the following changes to the Minutes:

1. Page 4, Item III. a., under subtitle “Comments by the Board,” in the paragraph, fifth sentence which reads: “They are also trying to correct the possibility of “**hand – stringing**” the . . .” **Change to read “ham-stringing . . .”**
2. Page 4, Item III. a., under subtitle “Comments by the Board,” in the paragraph, sixth sentence which reads: “Additionally , since there is no license . . .outside the licensing **hazards.**” **Change to read “standards.”**
3. Page 4, , Item III. a., under subtitle “A-2 The Status of PET and CT- Paul E. Christian,” in the paragraph, first sentence which reads: “Paul E. Christian is the Director of the Cyclotron Radio **Industry** Laboratory, . . .” **Change to read “Radiochemistry.”**

MOTION MADE BY KENT J. BRADFORD TO APPROVE THE MINUTES OF SEPTEMBER 10, 2004, AS CORRECTED, SECONDED BY LINDA M. KRUSE.

MOTION CARRIED AND PASSED UNANIMOUSLY

II. RULES

No Items

III. RADIOACTIVE MATERIALS LICENSING/INSPECTION

No Items

IV. X-RAY REGISTRATION/INSPECTION

No Items

V. RADIOACTIVE WASTE DISPOSAL (Board Information items)

a. Final Approval of Cedar Mountain Siting Evaluation – presented by Dane L. Finerfrock

Dane L. Finerfrock stated he had issued a letter to Cedar Mountain Environmental stating that they had completed one step in a five step-process towards becoming a low-level waste disposal licensee: Steps included: (1) local, planning zoning county approval, (2) approval of the siting application by DRC was the first step they completed, (3) approval of technical application by DRC, (4) governor's approval and the (5) Legislature's approval..

b. Discussion on Low-Level Radioactive Waste Forum Meeting, September, 2004 – Bill Sinclair

Bill Sinclair reported on the meeting of The Low-Level Radioactive Waste Forum held in Buffalo, New York on September 20-21, 2004. A site visit to the West Valley facility was held in conjunction with the LLW Forum meeting. Approximately, 51 people attended the one and one-half day meeting; including 21 members of the Board of Directors representing all nine operating low-level radioactive waste disposal compacts and 10 states, six Federal Associate Members representing four different federal agencies, four Non-Federal Associate Members representing various companies, 10 other state and compact representatives, nine other individuals, and one staff member.

The following were the major agenda items discussed at the Buffalo meeting:

- reports on new developments in states and compacts, including a focus session on the Texas siting process and another focus session on the recent settlement agreement concerning legal issues between the Central Interstate Low-Level Radioactive Waste Compact Commission and the State of Nebraska;
- response to the U.S. Environmental Protection Agency's advanced notice of proposed rulemaking on alternative disposal options for low-activity and mixed low-level radioactive waste;
- the National Mining Association's white paper on the direct disposal of non-11e.(2) byproduct material in uranium mill tailing impoundments;

- the recently completed U.S. General Accounting Office report on the availability of low-level radioactive waste disposal capacity and future report on the storage of Class B and C and Greater-than-Class C waste;
- the status of the U.S. Department of Energy's Manifest Information Management System (MIMS) and the new Office of Commercial Disposition Options;
- facility status updates by Envirocare of Texas, Waste Control Specialists, U.S. Ecology and Chem-Nuclear;
- the status of proposed legislation, S. 2763, on the treatment of accelerator-produced and other radioactive materials as byproduct material;
- the transportation of spent fuel; and Yucca Mountain licensing and legal issues.

The next meeting of the LLW Forum will be March 14 – 15, 2005 in Salt Lake City, Utah. A site visit to the Envirocare facility will be held in conjunction with the meeting. Thereafter, the LLW Forum will meet on September 22 – 23, 2005 in Las Vegas, Nevada. There will be a site visit to Yucca Mountain and/or the Nevada Test Site on September 21, 2005.

c. Discussion of the October, 2004 meeting of the Hazardous Waste – Bill Sinclair

Bill Sinclair, DEQ Deputy Director, reported on the October 19, 2004 meeting of the Hazardous Waste Regulation and Task Policy Task Force. This was the final meeting of the Task Force prior to issuing its final report and reporting to various legislative interim committee meetings during November 2004. The following summary is reported on task force actions, recommendations and legislation:

TASK FORCE ACTIONS, RECOMMENDATIONS, AND LEGISLATION

LEGISLATIVE AUDIT OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY REGULATION OF WASTE FACILITIES

The Task Force chairs requested that the Legislative Auditor General conduct a legislative audit of DEQ to determine whether current regulatory requirements for the operation of waste facilities are adequate

to provide effective management of state environmental concerns and safeguard public health and quality of life.

The audit identified several areas where regulation could be improved; including inspection plans, split groundwater sampling, and treated waste sampling. DEQ presented plans for resolving issues identified by the audit and reported that corrections are in process. The Legislative Auditor General will conduct a follow-up audit in 2005. A summary of DEQ's plans for resolving audit issues is included as Appendix D in the final task force report.

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS (ADOPTED BY MOTION BUT NOT INCLUDED IN RECOMMENDED LEGISLATION)

The Task Force adopted by motion the following conclusions, findings, and recommendations. These items are not included in legislation recommended by the Task Force:

- Class B and C LLRW should not be accepted.
- Based on information received and visits to waste facilities and subject to the implementation of the process established by DEQ to resolve issues identified in the legislative audit:
- Waste facilities regulated by DEQ appear to be in substantial compliance with DEQ regulations; and
- DEQ is providing effective oversight and monitoring of waste facilities to ensure compliance.
- In order to implement legislative policies relating to waste management, additional statutory requirements may be necessary.
- Building block funding requested by DEQ for file management and fee auditing should be approved in the 2005 Session.
- Legislation regarding radioactive waste facility site ownership during the perpetual care time period should be deferred.
- The Task Force concurs with the process established by DEQ to resolve the issues in the audit report relating to inspection plans, split groundwater sampling, and treated waste sampling.
- In regulating or licensing waste disposal facilities in the state, DEQ should consider any contingent liabilities such as bonding or any other obligation that might impact any governmental entity in the state. DEQ's findings should include an analysis of any potential risk.
- DEQ should implement measures necessary to detect improper reporting.
- The follow-up audit to be performed by the Legislative Auditor General in 2005 should be carefully reviewed by the Natural

Resources, Agriculture, and Environment Interim Committee in the 2005 interim.

- Based on testimony from the Rocky Mountain Center for Occupational and Environmental Health at the University of Utah and Rocky Mountain Environmental Consultants, LLC on comparative risk analysis, the Task Force finds that LLRW operations in the state pose a lower risk than many other chemical and mining facilities that currently operate in the state.

Legislation Recommended for the 2005 General Session

In the 2004 interim, the Task Force adopted and recommended that legislation "Waste Amendments" be presented in the 2005 General Session. The proposed legislation:

- requires the Solid and Hazardous Waste Control Board to review and report to Legislature every five years:
 - the adequacy of the amount of financial assurance required for closure and post-closure care of a commercial hazardous waste treatment, storage, or disposal facility;
 - whether funds or financial assurance are necessary for perpetual care and maintenance of a commercial hazardous waste treatment, storage, or disposal facility and the adequacy of those funds or financial assurance, if found necessary; and
 - the adequacy of any funds or financial assurance required to cover certain costs;
- expands the scope of the Radiation Control Board's review of the Radioactive Waste Perpetual Care and Maintenance Fund to include:
 - a review of the adequacy of the fund to cover certain costs; and
 - a review of the amount of financial assurance required for closure and post-closure of a commercial radioactive waste treatment or disposal facility;
- increases the penalty amount per day for violating a provision of the Solid and Hazardous Waste Act;
- provides that the owner or operator of certain waste facilities, rather than the generator, is liable for certain fees;

- clarifies that fees for certain waste shall be determined by multiplying the fee amount by the waste volume or curie calculated to the first decimal place;
- clarifies that certain wastes are subject to only one fee if multiple fees apply;
- requires the owner or operator of a facility receiving waste containing PCBs to submit a form with the disposal fees and requires DEQ to make rules specifying the information required in the form; and
- imposes gross receipts taxes on mixed waste disposal received from certain governmental entity or agent contracts.

d. Discussion of the UCA 19-3-107- Utah Radioactive Waste Management Plan – Dane L. Finerfrock

Dane L. Finerfrock reported that in 1993 the Division of Radiation Control was required to prepare a radioactive waste plan that addressed the issues listed in UCA 19-3-107 – Utah Radioactive Waste Management Plan, subsection (2). The report was prepared by DRC and presented to the Board in 1993.

Dane asked the present Board Members to refer to the pages of the audit report in which the auditors talked about the Radioactive Waste Management Plan prepared in 1993. Dane said the auditors looked at this plan in 2003, they also stated that the goal of the plans was to project over 20 years an estimate of radioactive waste capacity for the State. A decade has passed and the plan is not being used. Thereby, prompting the Department to reexamine it. If the Utah Code needs to be reviewed and modified, the Department should pursue statutory change. The development and use of the plan is a prudent managerial instrument.

Dane said in his discussions with the auditors they were looking for the Radioactive Management Plan to address an issue they were concerned with, which became known as regulatory creep; that is Envirocare license was expanding by using authorities within the rules for them to take certain types and radiologic characteristics of waste, and that DRC was approving those amendments to the license under the radiation control rules without any values from this plan. It is probably more accurate to say that there were people that were interested in this regulatory creep that they felt the Legislature should be making some of these decisions.

Dane suggested the Board decide whether or not the Radioactive Waste Management Plan should be revised, or has the task according to the statute been completed

Bill Sinclair reported that he was the Executive Secretary when the plan was required to be completed. Bill said, as Dane pointed out, it was a statutory requirement under the Radiation Control Act when the Department of Environmental Quality was established; this provision was put into place to emphasize that there needed to be a Division of Radiation Control in the Department of Environmental Quality.

Bill said there are a couple of important aspects in terms of the statutory language: there was never any statutory language which indicated what the intent of the plan should be; in other words there is nothing in the plan which states that this plan needs to be developed for this specific reason. .

After much discussion, Board Members agreed that the plan was very difficult to approach and that a clarification of the plan needed to be made with respect to the original intent of the plan.

Stephen T. Nelson suggested that a subcommittee of the Board Members get together and look at the existing plan, look at the statute, and look at the audit and draft a response and to bring it to the Board for discussion.

MOTION MADE BY KENT J. BRADFORD TO SET A TIME FOR A WORKING MEETING/SUBCOMMITTEE MADE UP OF BOARD MEMBERS AND HAVE COPIES OF THE PLAN DISTRIBUTED AND ADDRESS QUESTIONS BY THE AUDITORS AND THE BASES OF THE WHOLE THING TO GET THE BOARD EDUCATED AND DISCUSS THE STATUS OF THE PLAN BEFORE THE BOARD GOES FROM THERE, SECONDED DAN L. PERRY.

MOTION CARRIED AND PASSED UNANIMOUSLY

Discussion followed as to who should be involved in the discussions of this work group. The Board Members that volunteered to be on the subcommittee are:

- (1) Dianne R. Nielson
- (2) Karen S. Langley, Chair
- (3) Stephen T. Nelson, Vice Chair
- (4) Kent J. Bradford

Karen S. Langley asked that a copy of the original plan be provided to the volunteers of this Subcommittee Members and to include a copy of the 1993 Board Minutes, and a copy of the 1992 Radioactive Waste Management Plan. Karen said that everyone in the Subcommittee,

including the rest of the Board Members, should be notified of the upcoming work schedule in case they decide to attend any of these meetings and decide to be involved.

e. **Discussion of UCA 19-3-106.2(8)(a) and 8(b) – Evaluation of the Radioactive Waste Perpetual Care and Maintenance Fund – Dane L. Finerfrock**

Dane L. Finerfrock asked the Board Members to refer to their supplemental copy on index tab 5, where the Utah Code 19-3-106.2(8)(a) talks about the "the board shall direct an evaluation of the adequacy of the Radioactive Waste Perpetual Care and Maintenance Fund every five years, beginning in 2006. The evaluation shall . . ."

Part (b) "the board shall submit a report on the evaluation to the Legislative Management Committee on or before October 1, of the year in which the report is due."

Dane said that section (b), is referring to the year 2006, which might change with legislative action, but the target is to have a report prepared in advance of October 2006 to present to Legislative Management Committee.

Dane reported that they had come up with a proposed schedule and that it will take about a year to prepare this report. DRC will try to outline a scope of work and bring it to the Board for their approval. Dane asked the Board to entertain a discussion as to how much public involvement it would like to have; public involvement, public comments, etc. Dane said that this is an important issue. The perpetual fund issue is a significant issue with respect to Envirocare. Public comments at this time would be very helpful. Dane said that as Bill Sinclair explained in his discussion of the Hazardous Waste Task Force, they have emphasized not only the adequacy of the perpetual care fund, but also the post-closure monies that are available in the surety for post-closure cost, which are some environmental monitoring costs and some minor maintenance costs.

Dane said that DRC would prepare an outline for the Board and present it at upcoming Board meeting. Dane suggested that it was better for DRC to report in January 2005 because there seemed to be numerous items for the upcoming December 2004 meeting. **Dan L. Perry recommended that the outline be presented in January 2005 Board Meeting. The Board Members unanimously agreed that this item be presented in January 2005 meeting.**

VI. URANIUM MILL TAILINGS UPDATE (Board Information items)

- a. **USGS River Migration Model – Loren Morton**
- b. **IUC Update on Groundwater Discharge Permit and Correction Action Agreement – Loren Morton**

Date	VI. a. Activity/Description
Moab Uranium Mill Tailings Project, Near Moab, Utah	
July - October, 2004	<p>a. <u>USGS River Migration Study and Model</u></p> <ul style="list-style-type: none"> ○ <u>Phase I Joint Funding Agreement</u>: USGS [40%], EPA [30%], DEQ [30%] - \$61K total ● USGS 3-D computer model to predict river water velocity and shear stress for the Moab Stretch of the Colorado River. Open File Report to be published in late January, 2005. ● Multi-dimensional Surface Water Modeling System (MD_SWMS) – a USGS model that has been used to evaluate sediment transport, flood re-construction, bridge alignment, and river channel evolution and restoration on several rivers in the western United States* <ul style="list-style-type: none"> * Snake and Kootenai Rivers (Idaho), Green River (Utah), Tanana River (Alaska), Platte River (Nebraska), and Trinity River California) ○ <u>Limitations of Previous Atlas Model</u> (Muessetter Engineering): <ul style="list-style-type: none"> ● Rigid river boundaries ● Limited number of measured river transects (cross-sections) – collected by conventional land survey techniques ● Uncalibrated model ● No river bed scour at West Portal (bedrock at base of channel) ○ <u>USGS Multi-dimensional Surface Water Modeling System (MD_SWMS) Model</u> – to predict 3-D river water velocities and shear stress. ○ <u>Advantages to USGS MD_SWMS Model</u>: <ul style="list-style-type: none"> ● Robust river boundaries ● Can be calibrated to current river velocity conditions ● Can relate predicted river velocity / shear stresses to stream bank lithology to interpret potential for river bed scour, bank erosion, and river migration. Phase I = preliminary ● Improved topography data (above water levels) – provided by DOE, USBR, UDOT, Nature Conservancy ● Improved river channel bathymetry – USGS to field measure with a GPS integrated system (in process). ● 3-D, Time Discrete Results – three dimensional velocity and shear stress predictions for both before, during, and after the flood peak hydrograph. ○ <u>Key Inputs to USGS MD_SWMS Model</u> <ul style="list-style-type: none"> ● Topography / River Bathymetry Data ● River Flow Data (Q₁₀₀, Q₂₀₀, Q₅₀₀, Q_{PMF}) ● Scour Depth of Alluvium at West Portal [hydraulic jump?]: 0, 10, 25, 50, and 50+ feet

Date	VI. a. Activity/Description
November 1, 2004	<p>Received update on DOE Schedule for Draft Environmental Impact Statement:</p> <ul style="list-style-type: none"> ○ Friday, November 12, 2004 – Public notice to be published in the Federal Register. 90-day public comment period begins. ○ Mid-January, 2005 – public meeting in Moab. Cooperators meeting also to be scheduled. ○ Friday, February 18, 2005 – public comment period ends.

VI. b. International Uranium Corporation – Ground Water Discharge Permit	
December 18, 2003	1 st Draft of State Groundwater Discharge Permit (Permit) and Statement of Basis (SOB) shared with IUC
February 10-12, 2004	Meetings held with IUC to negotiate Permit and SOB content.
September 27, 2004	2 nd Draft of State Groundwater Discharge Permit (Permit) and Statement of Basis (SOB) emailed to IUC for review and comment.
October 15, 2004	Meeting with IUC held at DRC offices to discuss 2 nd Draft Permit and SOB
October 18, 2004	IUC email comments on SOB received. DRC staff currently in process of review.
VI. b. International Uranium Corporation Groundwater Contaminant Investigation and Corrective Action Order	
May, 1999	Split groundwater sampling at the IUC White Mesa uranium mill finds excess chloroform concentrations in 1 monitoring well (MW-4).
August 23, 1999	DRC issues Notice of Violation and Groundwater Corrective Action Order for excess chloroform concentrations found during May, 1999 groundwater split sampling event.
November, 1999 thru July, 2002	<p>IUC installs 20 temporary and permanent monitoring wells during 4 drilling campaigns (11-12/99, 5/00, 12/01, and 7/02).</p> <p>From information collected both DRC and IUC agree that eastern and southern boundaries of chloroform plume have been defined. Northern and western extent of plume is yet unknown.</p> <p>As for contaminant sources, IUC believes the contamination was solely from 2 septic tank drainfields that historically discharged mill laboratory wastewater. This claim is unsubstantiated in that chloroform wastewater was discharged for many years to Tailings Cell 1, and because the northern and western margins of the plume are yet undefined.</p>

April 24, 2002	During a meeting with DRC staff, IUC proposes a long-term pump test to control the plume and learn more about the aquifer. The next year is spent resolving technical concerns to maximize data collected on aquifer hydraulic properties, and regulatory concerns about fate and disposal of contaminated groundwater.
April thru December, 2003	IUC begins long term pump and treat program in April, 2003. Initial pumping is from 1 well (MW-4). Later 2 other wells are pumped (TW4-19 and TW4-15). Pumping ceases at all 3 wells in December, 2003 due to discharge line freeze-up.
December, 2003 thru August, 2004	No pumping performed at any of the three interceptor wells (MW-4, TW4-19, or TW4-15).
August, 2004	IUC resumes operation of the pump and treat system.
Currently	DRC staff plan to negotiate a schedule with IUC for completion of: <ol style="list-style-type: none"> 1) Groundwater contaminant investigation – to determine northern and western boundaries of plume, and identify all contaminant sources present at the site, and 2) CAP for Executive Secretary approval.

After Loren Morton's presentation and update to the Board, Karen S. Langley asked Loren if he could arrange for an update from IUC to help the Board visualize the evolution of the Groundwater Discharge Permit assessment, and if they could be notified to come and update the Board in the December 3, 2004, Board Meeting, that the Board could get a better briefing in the interim circumstances; where they were and where they are headed and what can be done to bring this to a resolution. Loren said he would arrange for IUC to attend and make a presentation and brief the Board.

VII. OTHER DIVISION ISSUES (Board information item)

a. Board Membership

Karen S. Langley, Chair introduced Dr. Joseph K. Miner, the newest Board Member to the Board, and those present from the public.

Joseph K. Miner, M.D. introduced himself and said that he was currently the Director for Utah County Public Health Department and had been there for 22 years. He grew up in Salt Lake County and attended Medical School at the University of Utah and has worked in Occupational Medicine his whole career, and worked at Geneva Steel for four years, and then has worked 22 years in occupational medicine at the Health Department.

Dane L. Finerfrock announced that Gene L. White was not re-elected as the Tooele County Commissioner, therefore Mr. White would send a letter of resignation to the Division.

VIII. PUBLIC COMMENT

Jason Groenewold, HEAL Utah, commented to the Board that today he wanted to shower the Board with his praises, saying that he especially appreciated the staff's initiative to help engage in the study on the Moab mill tailings. He thanked them for going to task and wanted to hear from IUC on the issue of ground water contamination. Jason said he also wanted to thank them for forming the subcommittee to study some of the plans that came about from the audit. He thought these were all great steps and efforts made by the Board to update the public. Jason thanked the Board for all the good work, and also for giving him priority among all the other public speakers.

IX. OTHER ISSUES

Next Board Meeting – December 3, 2004, Cannon Health Bldg, 288 North 1460 West, Conference Room 125, Salt Lake City, Utah, 2:00 – 4:00 P.M.

THE BOARD MEETING ADJOURNED AT 3:45 P.M.